

The Danish apprenticeship system and the Nordic model of education

Jørgensen, Christian Helms

Publication date:
2017

Document Version
Other version

Citation for published version (APA):

Jørgensen, C. H. (2017). *The Danish apprenticeship system and the Nordic model of education*. Paper presented at 6th ITEPE Workshop „Segmentalism” re-visited , Copenhagen, Denmark.

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain.
- You may freely distribute the URL identifying the publication in the public portal.

Take down policy

If you believe that this document breaches copyright please contact rucforsk@kb.dk providing details, and we will remove access to the work immediately and investigate your claim.

The Danish apprenticeship system and the Nordic model of education

The paper examines the development of initial vocational education and training (VET) in Denmark in relation to the Nordic model of education. The egalitarian ideal of this model is to provide equal opportunities for education for all at all levels. This ideal has been pursued by policies in all the Nordic countries to establish public, free and comprehensive schooling. Key principles are the equal access for all regardless of social background and gender, and full permeability from the lowest to the highest levels with no dead ends in the education system (Blossing et al., 2014). This ideal is associated with the universal type of welfare state and governments led by Social Democratic Parties (Esping-Andersen, 1990). In accordance with this ideal, a non-selective and comprehensive education system was established for the nine year compulsory schooling in the post-war decades in all the Nordic countries (Wiborg, 2009). Since the 1970s, reforms have sought to extend the comprehensive school to the upper secondary level with Sweden as the most successful example. All young people leaving compulsory school in Sweden start in the unified Gymnasium comprising academic and vocational programmes. The students in all programmes are offered eligibility for higher education. The Nordic model of education, as it is realised in Sweden, is governed by the state and has weak involvement of the labour market organisations. Apprenticeships were abandoned in the 1960s because apprenticeship was associated with early social selection and division of young people based on their social origin. Moreover, learning in the workplace was associated with exploitation and low quality of training (Arnesen & Lundahl, 2007). In the Swedish version, the Nordic model of education is governed by a strong and centralised state headed by a dominant Social Democratic party. However, since the 1990s extensive decentralisation and marketization of upper secondary education in Sweden has questioned the continued relevance of the idea of a Nordic model of education (Antikainen, 2010; Imsen et al., 2016; Kananen, 2014).

In contrast to this, upper secondary education in Denmark has maintained a strong form of tracking between general and vocational programmes. The Danish IVET-system is based on the apprenticeship model, and it is organised separately from general education (the Gymnasiums). Unlike the other Nordic countries, Denmark has no unified legal framework for upper secondary education. The two tracks have different historical roots, recruit from different social strata, and have maintained different forms of governance, traditions and learning cultures. The VET system has close links to the employment system, but weak links to general and higher education (Jørgensen, 2013). It represents a type of collective skill formation that has many similarities with the dual systems of

the German speaking countries (Busemeyer & Trampush, 2012; Thelen, 2014). However, it also includes traits of the Nordic model of education, which means that state involvement is stronger and school-based training is more prominent. The state has a key role in the financing and management of the introductory, one-year school-based part of the VET programmes. The main part, the apprenticeships, represents a system of collective skill formation, where the labour market organisations have the responsibility for the organisation of work-based training in the VET-system. In contrast to Germany, the Danish labour unions and employer organisations have an equal representation in the governing bodies of the VET-system. This model for VET resonates well with the Nordic labour market model, which relies on consensual industrial relations and traditions of cooperation of the state and the labour market partners. However, this neo-corporatist model stands in contrast to the Nordic model of education, which is based on the state-led comprehensive upper secondary schooling. The question examined in this paper is if the dual Danish VET-system is approaching the Nordic model of education.

This question is relevant, because the state in Denmark has taken on a stronger role in the regulation of VET during the latest decades. This is seen especially in three areas: VET as an instrument for social inclusion of disadvantaged youth, the state initiative to establish school-based training (training centres) and an initiative for unification of vocational and general education (the *eux* programme). The first is in the area of the inclusion of disadvantaged youth and early school leavers. In connection with the expansion of the active labour market policies, the VET-system has been assigned the main responsibility for including young people not in education, employment or training, the NEET group. The second is in the expansion of school-based learning primarily to compensate for the lack of ordinary firm based training placements. This has resulted in the introduction of a new state-led institution, the training centres, which offer school-based training for students who are unable to find an ordinary company based training placement (Jørgensen, 2015). The training centres now enrol more than 10% of the VET students. This can be interpreted as a partial withdrawal of the employers from the system of collective skill formation (Juul & Jørgensen 2011). The third is the introduction of the new hybrid *eux*-programme, which integrates apprenticeship with preparation for higher education. This represents a step in the direction of the Nordic model of unified upper secondary education. The question examined in this paper is if the Danish apprenticeship system is drifting towards a Nordic model of education, which is a more state-led and school-based VET-system, where the role and commitment of the employers is reduced and the links to employment is weaker.

Denmark in the Nordic model of education

In the Nordic countries, vocational training of young people was not part of the construction of national education systems in the 19th century. Vocational training was a way of integrating young

people into adult working life through socialisation and enculturation in a specific occupation. Academic forms of education was reserved for a small minority from the privileged classes. In the first part of the 20th century, municipal vocational schools and continuation schools were established with a broader aim of integrating young people as citizens. They were initiated by the state, the Social Democratic parties and civil organisations. The continuation schools were organised by the municipalities with the aim of social integration of the new generations of young people. Among these were the Norwegian practical continuation school (*Framhaldskolen*), the Danish Youth School (*Ungdomsskolen*), the Finnish Preparatory vocational schools, and the Swedish workshop schools (*Verkstadsskolan*), all established in the interwar period (Jørgensen et al., 2016). This form of school-based vocational training often had weak connections to the labour market and low involvement of the employers. They were only preparatory for a broader field of employment, and the acquisition of specific skills were to take place in working life after the completion of the formal vocational programme.

Various forms of apprenticeships and municipal VET schools developed in parallel until the post-war period, when governments headed by the Social Democratic parties gained decisive influence (Michelsen & Stenström, 2017). The unification of the different tracks and streams of primary and secondary education became a key instrument for the abolishment of class-based inequalities and for developing the full human resources of the population of the Nordic nations. From then on, the rationalisation, systematisation and integration of VET into a national upper secondary education system accelerated. This process was followed by the extension and multiplication of the aims of VET. Democratic citizenship, social and gender equality and preparation for higher education became basic aims of the upper secondary school, including the vocational programmes. The ideals of a Nordic model of a non-selective school were realised for the nine-year compulsory school in all Nordic countries (Wiborg, 2009). However, for the upper secondary school, the process followed different trajectories.

The relations between the municipal school-based VET and the work-based apprenticeship systems developed differently in the Nordic countries in the post-war period. In Sweden and Finland, the municipal vocational schools merged into the comprehensive school-based upper secondary school. In Norway, the two types of VET developed parallel until they were unified in a mixed VET-system with two years of municipal, school-based education followed by two years of apprenticeship. In Denmark, the vocational schools early developed as an appendage to apprenticeships and not as an alternative form of school-based VET. One reason was that mandatory schooling for apprentices was written into the Apprenticeship Act as early as 1889. Therefore, municipal vocational schools did not develop into an alternative to the apprenticeship system in the post-war period. Another reason was that the craft-based Danish production regime could offer apprenticeship training for a substantial part of the large cohorts entering the labour market. In the mid-1960s, more than half of the male youth cohorts, and one third of the female cohort enrolled in apprenticeships. At the same

time, a new separate labour market training system (AMU) was established, which also offered opportunities for young people aiming for semiskilled jobs.

The Social Democratic party promoted proposals for a comprehensive public school in the 1950s. However, it was not until 1975 that the reform for the nine year comprehensive school was implemented. The stated aim was the abolishing of the class biased ‘sorting school’ by organising mixed-ability classed from grade one to nine. In the same period, the Danish Social Democratic party launched the proposal to integrate the diverse programmes of upper secondary education. It required that all students should have the opportunity to acquire eligibility for higher education, also in the vocational programmes (Socialdemokratiet, 1973). A reform was proposed as a response to a crisis for the apprenticeship system. By the mid-1970s, the enrolment in the VET-system decreased by 50% and the dropout rates grew strongly. Young people turned their back on apprenticeships, and increasingly opted for the Gymnasiums and higher education. Alternatively, they went directly into the labour market, where they could easily find employment due to the rapid growth of industry.

The proposal for a unified upper secondary school met strong opposition from the Right wing in Parliament and from the influential labour market organisations. In contrast to the other Nordic countries, a reform in Denmark maintained two separate educational tracks and the apprenticeship system. The ideals of the Nordic model of education had suffered a defeat in Denmark. Various reasons can explain why the crisis for the apprenticeship system in Denmark in the early 1970es ended with a different outcome than in the other Nordic Countries, when faced with many of the same challenges. One explanation is that the parliamentary position of the Social Democratic Party in Denmark was weaker than in the neighbouring countries. In contrast to Sweden, Denmark was dominated by a craft based form of small-scale production that relied heavily on skilled labour (Kristensen, 1996; Pettersson, 2006). The trade union movement and the Socialdemocratic Party were strongly influenced by the skilled workers unions that opposed the merging of VET into a unified school (Christensen, 1985). Moreover, in contrast to the other Nordic countries, no school-based VET-system had been established as an alternative to a reformed apprenticeship system in Denmark.

As an outcome of the crisis in the 1970s, the apprenticeship system has been maintained with a decisive role for the labour market organisations. Even the Social Democratic Party has accepted this situation due to the influential craft unions in this field of policy. Since the 1970s, no serious attempts have been made to unify the two tracks of upper secondary education. The unification strategy has been substituted with measures to build bridges between the vocational and general programmes, and from VET to higher education. These measures have however not been very successful, before a new hybrid programme was introduced in 2011 (Jørgensen, 2017).

Apprenticeship - a measure for social inclusion

A new challenge for the apprenticeship system in Denmark emerged in the early 1990s, when governments became alarmed over the persistent large NEET group. In 1993, the Social Democratic coalition government formulated the political aim that 95% of every youth cohort should complete upper secondary education. The Apprenticeship system and the active labour market policy became the main vehicles for the realisation of this aim. The active labour market (ALM) policy with a special focus on youth has gradually been tightened from 1993 onwards (Jørgensen & Schulze 2011). The period of eligibility for social security has been shortened, and the demands on unemployed youth to be in education or training have become harder. The ALM policies have shifted from 'soft' and supportive measures for disadvantaged youth, to more 'tough' and coercive measures to activate young people in education and training (Juul & Jørgensen, 2011). The municipal Youth Counselling Centres have not only the obligation to seek out early school leavers, but they can also punish parents financially if their children, under the age of 18, do not follow their education plan. This policy emphasise young peoples' individual responsibility to make the right choices and to manage the challenges and risks in the educational transitions. In addition, the provisions of the welfare benefits for young people have shifted from universal and generous social benefits to a more restrictive model of workfare (Kananen, 2014). The active labour market policy is especially aiming at young people who are required to enrol in education and training. As a consequence, the VET-system has become burdened with a large share of disadvantaged youth and the dropout rates has increased to a high level (Jørgensen, 2016). Consequently, since 2007 policy makers have required that the vocational schools make yearly 'retention plans' and set goals for increasing the retention rates. To support these goals, the schools offer extended basic courses, individual guidance, psychological advice, mentoring, coaching, contact-teachers, free school meals, etc.

Table 1. Drop-out rate from VET basic course in Denmark														
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Drop-out rate	4,0	5,3	6,0	9,6	16,6	20,5	19,8	23,0	24,3	26,1	27,0	27,1	27,9	25,9
Data: Jørgensen, 2016														

Despite numerous initiatives to increase retention in VET, the dropout rates has remained on a high level and the rate of progression to higher education from VET has dropped. Consequently, the esteem and attractiveness of VET for young people has been reduced and the enrolment in VET has declined. More than 25% of the students drop out of the first year basic course. Furthermore, around 20% of the students (apprentices) drop out of the main course, the apprenticeships, half of them within the first three month, which is the probation period. Increasingly, this development has made the employers express serious concern over the qualifications and motivation of the students in VET. This can be one explanation for the considerable decline in the number of training contracts

signed in 2016 (28%) compared to the level before the crisis (2008) (table 2). Only half of the companies that are currently approved to train apprentices actually have contracts with apprentices. The larger companies (>250 employees) take less than 4 apprentices per 100 skilled employee, while the smaller and medium sized take more: 6 apprentices per 100 skilled employee.

At the same time, the share of students enrolled in school-based training has continued to grow, even though the total employment has almost reached the same level as before the crisis. Moreover, the number of short term training contracts has continued to grow especially in the construction sector where they make up one third of all training contracts (table 3). This development can be an indication of a declining commitment of the employers in the Danish VET-system and a growing role of the state in the provision of school-based training.

Table 2. Enrolment of student in training centres, TRC (school based training) 2003- 2016														
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Total contracts*	55.012	54.156	56.559	61.795	65.725	65.573	57.820	53.890	53.984	53.050	52.418	49.796	48.532	47.480
Students in TRC	5.852	5.275	3.026	2.382	1.716	1.793	4.101	4.866	4.591	5.974	7.734	7.919	9.070	9.780
Share in TRC	11%	10%	5%	4%	3%	3%	7%	9%	9%	11%	15%	16%	19%	21%
Data: statweb.uni-c.dk/Databanken * Total number of apprenticeship contracts the last 12 months of November each year, except Care & Health. Percentages are shares of the total number of apprenticeship contracts (incl. partial contracts, 'New Apprenticeship')														

Table 3. Number of students on short term contract 2004- 2016														
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Students		61	377	530	512	712	1206	2189	2169	2451	2044	2970	3789	4119

The role of the new training centres

In other countries with dual systems of VET, like Germany and Switzerland, students must have an apprenticeship contract to get access to a vocational programme. In Denmark the majority of young people, who start in the basic course of a VET programme, do not have a training contract beforehand. During the one-year, full-time school based basic course they have to obtain an apprenticeship contract with a company to be able to continue in the main course of typically 3 years duration.

Since the financial crisis, around 10.000 of the students every year have completed the basic course in VET have been unable to find an apprenticeship. This problem of the declining supply of apprenticeships is aggravated by a predicted serious shortage of skilled labour.

As work-based learning is considered to be a core quality of the Danish dual VET-system by all the stakeholders, there is little support for replacing this system with a full-time school based system, like the Swedish Gymnasiums. However, to compensate for the shortage of apprenticeships, the students have since 1993 had access to temporary school-based training (SKP). The SKP scheme has been given low priority by the vocational schools, and it has a low reputation among of the vocational students. With a reform in 2013 the SKP was changed into a new and permanent institution, the *training centre* (Danish: '*praktikcentre*'), that offer work based training and take responsibility for realising the *educational guarantee* declared by the Ministry of Education. This guarantee implies that students, who start in a basic course in a vocational school, are guaranteed the right to complete a programme in the VET-system, though not necessarily the specific programme they want. The training centres have extended responsibilities compared to the SKP. Besides compensating for lack of apprenticeships during downturns in the business cycles, the centres can meet structural changes in the role of training placement in VET. One of these changes is that the production process is becoming increasingly *specialized*, which means that the individual company can offer only a part of the broad collection of vocational skills required to learn an occupation. In addition, companies introduce new production concepts with short delivery times (Just-in-Time production), quality assurance and 'zero-error production'. These prod concepts imply fewer opportunities for young people to directly engage in production and learn by experimenting, testing their skills and learning from their mistakes. In addition, financial globalisation involves a shift from a 'stakeholder' to a 'shareholder' economy (Preston & Green, 2007). Companies are increasingly adopting a short-term focus on financial returns for investors, rather than their long-term contribution to society. Consequently, companies will make less long-term investments in the training of apprentices to secure a skilled workforce for the future. In addition, as the opportunities for long term planning for especially smaller firms are reduced due to volatile markets, they can be unable to enter training contracts for three years.

These changes in the production system have implications for the training companies. The capacity of the individual company to offer broad vocational qualification and a three-year contract is declining. The new training centres can address this challenge. The training centres can coordinate the students' multiple, shorter placements in different companies and supplement this with school based training to ensure that the students acquire all the skills required to complete the programme. Currently, around 20% of all apprentices are in training centres. To fulfil the government's target of increasing the share of a youth cohort enrolling in VET, a substantial increase in the supply of apprenticeship is required. Judged from the development since 2008, this is only possible through a continued increase in the capacity of the fifty Danish training centres. As a consequence, the state and the

public vocational schools that run the training centres will acquire a more prominent role in the Danish dual VET-system.

The position of the Danish training centres in the institutional architecture resembles that of the Norwegian local training agencies (Olsen & Hagen & Høst 2015). A significant difference is that the Norwegian training agencies are established and owned by the local employer federations, while the Danish training centres are established at the initiative of the state. The role of the Danish training centres has parallels to the Swiss *training networks* that consist of training companies that collaborate to offer training placement. The apprentices typically rotate between the training companies with a period of one year in each company. This initiative increases the supply of training placements and gives apprentices access to the diverse learning environments in multiple firms (Imdorf & Leemann 2011). When the individual training firms become more specialised, the networks of training firms can offer the broader range of skills required to be trained in an occupation.

The Danish training centres were introduced in 2013, and it is too early to assess definitely the merits of this innovation on the Danish VET system. However, the training centres face the same challenges as the earlier SKP (Jørgensen & Juul 2010). The training centres can only to a limited extent engage in production of goods and services for customers or citizens, and thus lack the authenticity of ordinary workplaces. Moreover, they are connected to the vocational schools, and the students retain a student identity, not an apprentice or craftsmen/-women 'in the becoming'. In addition, the students' grant while in the training centres is significantly lower than the apprentices wages. This can explain why only half of the students eligible for the training centres accept this option (DA 2014). A preliminary assessment of the training centres (EVA, 2014) indicate that the training centres work in a more structured way and have a higher standard than the SKP. They vary significantly in size as some have only 10 students in one programme and others up to 500 students in 18 different programmes. The assessment recommends that the contacts of the centres to companies should be organised more systematically. However, the centres have the opportunity to develop a new kind of 'third learning space' (Goetze, et al., 2002) and an intermediary institution that can bridge the world of work and the world of education.

The integration of general and vocational education

The policies for maintaining the Danish VET-system separate from general upper secondary education has been driven by the labour market organisations. They have given higher priority to the specific vocational skills than to preparation for higher education. The VET-system is very effective in bringing students into employment when they complete apprenticeships. However, the enrolment of young people in VET has been decreasing, which is mainly explained by the image of apprenticeships as a 'dead end'. They offer access to a specific occupation, but at the same time closes the opportunities for progression to higher education. This is what many young people give as the reason for choosing general upper secondary schools (gymnasiums) instead of an apprenticeship, when

leaving compulsory school (Frederiksen, et al. 2012). Enrolment in the Gymnasiums in Denmark has doubled more than five times since the early 1960es. Already in the middle of the 1970s, the number of young people entering the Gymnasium exceeded the number of new apprentices. As more and more young people opt for the Gymnasiums, the remaining group who enrol in VET represent a more 'weaker' group in relation to resource for completing education. The group performs considerably lower in compulsory school and come more often from disadvantaged families compared to students in the Gymnasiums (Jensen & Larsen, 2011). In addition, many early school leavers and dropouts from other programmes are directed into VET and contribute to the negative image of VET as a 'second choice'. Three times as many students in the Gymnasiums have parents who graduated from higher education compared to the students in vocational education.

To alter the low esteem of VET and the image of being a 'dead end', the government in 2010 launched the new eux programme, which has gradually been implemented in most vocational programmes. The combines the apprenticeship programme with preparation for higher education, and hereby seeks to improve the esteem of vocational education. In a reform of VET in 2014, the government described the eux as a "*strategic measure to attract more resourceful young people to vocational education*" (Undervisningsministeriet, 2014:61). The eux programme was first launched in 2005 as a pilot programme for hybrid qualifications. This so called 'EUD-HTX program made it possible to achieve a skilled workers certificate for carpenter, automation-technician or industrial technician and at the same time complete an examination corresponding to the Higher Preparatory Examination (HF) that give general access to higher education. The first students from the pilot programme completed in the summer of 2010. The evaluation of the pilot programme found that the programme's duration of five years was too long to attract any wider number of students. The benefit of taking the hybrid programme was not obvious for the students compared to taking two consecutive programmes. The students would only save ½ - 1 year study time when choosing the developmental programme compared to completing first an apprenticeship and then the HF. With a reform in 2014 the length is reduced to around four years and the school- and workplace-periods will be standardised six month in order to solve some of the logistic challenges that the eux has raised for training companies and schools.

The eux programme is combining two existing educational pathways: the dual system and the Vocational Gymnasium. The Vocational Gymnasiums do not provide a journeyman's certificate or give access to the occupational labour markets. Apprenticeships do not provide eligibility for higher education. The aim of the eux programme is to do both by to some extent integrating academic subjects into the vocational programmes. The innovative character of the programme can be understood by comparing it to similar programmes that combine general and vocational qualifications. The vocational Gymnasiums in Denmark and the vocational programmes in the Swedish Gymnasium are school based programmes that do not give direct access to skilled employment. Access to skilled employment is also more difficult for students from the Danish and Swedish full time school based

vocational programmes (SKP) than from apprenticeship programmes (Jørgensen & Juul 2010). Employers in Denmark, like employers in Germany, have been reluctant to recognize the value of qualifications acquired in full time school based VET. The successful Swiss hybrid programme, the 'Berufsmatura', offers (in one version, BM2) eligibility for higher education by taking an additional year after completion of the vocational programme (Schmid & Gonon 2011; Nikolai & Ebner 2011). This version has become the most popular over the last years. In contrast to the Danish *eux* the *Berufsmatura* in this form does not offer integrated teaching of the two types of qualifications. The experience from the pilot programme in Denmark demonstrated that in order to succeed the programme had to cope with a number of challenges.

First, the hybrid programme has required new forms of cooperation between stakeholders from vocational and general education at all levels. In the vocational schools, the *eux* requires an integration of the different learning cultures of two groups of teachers. This is no small challenge as the gymnasiums and the vocational schools have different origin and tradition, recruit from different social strata and have different forms of governance and learning culture. The Ministry of Education has left much of the planning of the courses to the training committees for each occupation. The introduction of hybrid qualifications cuts across some of the established divisions on the labour market and thus poses a challenge to the organised interests. The employers' organisations generally support the hybrid programme, though in some industries they have been divided between smaller and larger companies. The larger companies more often require new kind of hybrid qualifications to work on the boundaries between the development and production departments. Hybrid qualifications can connect the skilled workers in the production departments with the development, planning, sales and marketing departments. Hereby, graduates from the *eux* can promote innovation in the workplace by connecting professions and occupations that have earlier worked separately.

Secondly, the *eux* combines the three year Gymnasium and the four year apprenticeship in a new four year programme. This compression of time requires a considerable integration of vocational and general subject, so that for example math can be learned by integrating it into a vocational subject. New interdisciplinary or hybrid subjects, like 'technology', have been introduced. They involve multiple subjects such as social science, physics, math and language skills. In these subjects, the students can at the same time learn general and technical subjects and thus save some teaching time. Another way to save time by integrating the two types of subjects is through project-based teaching, where content from different subjects are integrated by having the students to work in groups on a common project. An issue of tension was the role of the various subjects involved in the integrated or hybrid subjects: Teachers in some subjects have feared that they become reduced to a minor, supporting role for other subjects that are assigned a more central role. This issue can be aggravated when the pressure on the time is strong, since time spent on a common project work can reduce the time assigned to the individual subjects.

Thirdly, the eux involve a challenge of training placements. The ordinary apprenticeship system is organised with block release, typically ten weeks away from the training company in a school based course each year. In the eux programme the school-based courses are normally six months. It can be difficult for small employers to do without the apprentices for six months. Smaller and larger companies have different conceptions of the eux programme. Larger companies often take on apprentices with a long-term perspective of investment and recruitment. The small and medium sized companies provide the majority of training placements and often rely on the labour power of the apprentices to maintain day-to-day production.

A unique quality of the eux in a Nordic context is that it goes beyond the school based Swedish and Finnish upper secondary vocational programmes that combine vocational qualifications with eligibility for higher education. In contrast to these, the Danish eux is based on the apprenticeship model that gives the students direct access to skilled employment with a journeyman's certificate. The eux programme has been a success measured on enrolment. Concurrently, it is not possible to determine whether the eux has mainly attracted students who would otherwise have chosen the vocational Gymnasium as intended. If eux mainly attracts the most ambitious students from the ordinary apprenticeship programmes, there is a risk that the effect will be the opposite of what was intended. The eux can contribute to the existing hierarchisation of upper secondary programmes where the technical vocational programmes rank lowest. The eux programmes are considerably more demanding than the ordinary VET programmes, which implies the risk that it will become a kind of elite education for a selected group of students.

Discussion and conclusion

While all the Nordic countries established public, non-selective, comprehensive education for grade one to nine, the development of upper secondary education differed. The development of VET in Sweden and Denmark displayed the most pronounced differences (Dobbins & Bussemeyer, 2014; Michelsen & Stenström, 2017). Sweden in the 1990s realised a unified upper secondary school (Gymnasium) where all programmes are of three year duration, have a common core curriculum and all offer access to the tertiary level of education. The unified Swedish upper secondary education is seen as an ideal of the Nordic model of education. However, in this upper secondary school, considerable social inequality continues to exist between the social origin of the students in the general and the vocational programmes (Rudolphi and Erikson, 2016). The reform in 1991 of the Swedish VET-system to improve the parity of esteem between vocational and general programmes, did not increase the rate of progression to higher education from VET (Hall, 2013). After implementing the reform, the drop-out rate in the vocational programmes rose dramatically from 10% to over 30% (Pettersson, 2010). One of the reasons was that a number of core academic subjects were incorporated in all the vocational programmes. Many of the disadvantaged and academically weak students failed in these subjects (Murray and Sundin, 2008). Providing eligibility for all students came at a

price for students with non-academic background (Van de Werfhorst, 2014). Children from low-educated families have lower chances of acquiring upper secondary education in Sweden than in Denmark (Causa, & Johansson, 2011). Especially men from low-educated families in Denmark have three times better chances of completing upper secondary school compared to Sweden. This can partly be explained by the Danish apprenticeship system, which offers an alternative to the academic upper secondary school (Wolbers, 2007; Müller, 2005).

In Denmark, the endeavours to realise the Nordic comprehensive upper secondary school were defeated in the 1970s. The apprenticeship system was maintained separate from the Gymnasiums under significant influence by the labour market organisations. They pursued a strategy of enhancement of VET as a separate system instead of a policy for unification. The strength of this solution is that the Danish VET-system has retained close connections to the employment system. Therefore, it is more inclusive for young people not pursuing an academic career. With the high youth unemployment rates from the 1980s, this quality was given priority over equality in the access to higher education, also by Social Democratic governments in Denmark. Even Finland and Sweden launched initiatives to reintroduce apprenticeship, though without much success. European and Nordic policy makers have emphasised the persistent low youth unemployment rates in Denmark that were seen as result of the ‘unmodern’ apprenticeship system. Therefore, the Danish governments gave the VET-system a central role in the policies to make all young people complete upper secondary education. However, when the state intervened in VET with an agenda for social inclusion, the strength of the apprenticeship system turned into a weakness. As an unintended consequence of the state’s policy for social inclusion of disadvantaged youth, the image and esteem of VET declined. VET was less associated with quality and craftsmanship, and more with disadvantaged youth, high drop-out rates and low esteem. Moreover, as more and more disadvantaged youth enrolled in VET, the connections from VET to higher education weakened. VET appeared increasingly as a dead end in the education system, locking students into a specific occupation with few chances of progress. This has been emphasised by the growing inclination of young people to opt for the Gymnasiums and higher education. More than 70% of a youth cohort chose the Gymnasiums as their first priority when leaving compulsory school.

The attractiveness of VET declined not only for young people, but also for the training companies. Shortage of training placements has become a permanent challenge for the VET-system despite numerous measures to increase the supply of apprenticeships. A central agreement between the government and the labour market organisations in 2016 introduced a new financial incentive scheme to make companies increase the supply of apprenticeship. Companies that employ skilled labour but do not train apprentices must pay a high training levy. For the time being, it is not possible to determine the effects of this measure. However, we find indications of new structural limitations on the ability and readiness of companies to supply apprenticeships: specialisation, high quality production, Just-in-Time production, shorter planning periods, and a shift towards a shareholder economy,

etc. As a response to the almost permanent shortage of training placements, the government has established alternative school-based training. In 2011, this temporary initiative was turned into the permanent training centres in connection to the vocational schools. In addition, the state has taken initiative to introduce a new hybrid programme that combines apprenticeships with preparation for higher education. The aim is to attract more ambitious and high performing students to the VET-system and to neutralise the image of VET as an educational ‘dead end’. Together these initiatives indicate a new and stronger role for the state in the Danish dual VET-system.

First, the state has turned the VET-system into an instrument for policies for social inclusion of early school leavers and disadvantaged youth. The traditional aim of skill production has given way to the aim of social integration of young people. Secondly, the state has taken over part of the responsibility for the training of apprentices in the new training centres. These centres have the potential of acquiring a key role as mediating and coordinating institution between vocational schools and training companies, and between multiple training specialised companies. Thirdly, the state has initiated the new hybrid programme that unites the vocational and the general tracks of upper secondary education. An apprenticeship programme that offer eligibility for higher education has been introduced. These initiatives can be seen as indications of convergence of the Danish VET-system towards the ideal of the Nordic model of education. Together they imply steps to integrate the two tracks of upper secondary education, expand the public school-based training and offer higher permeability from VET to higher education.

Interestingly, indications of convergence are also visible in the other Nordic countries. Initiatives have been taken to reintroduce apprenticeships for young people in the Swedish and Finnish school-based VET-systems since the early 1990s. However, they have not had any success because they have been targeted at early school leavers and low performing students. From the start, they have had low esteem and low involvement of the employers. Moreover, the new Swedish apprenticeship programme from 2011 did not offer eligibility for higher education. Because of this, the initiative was heavily criticised for increasing social inequality concerning access to higher education in Sweden. This comparison between the Danish and Swedish development indicate that the Nordic model of education involve an unrecognised trade-off between social equality and social inclusion (Jørgensen, 2017). The Swedish comprehensive upper secondary school promotes social equality by offering all students eligibility for higher education. However, in this comprehensive school even in the vocational programmes, school-based teaching and general subjects are dominant. They are not very inclusive for young people from disadvantaged families. The Danish apprenticeship system is effective in providing employment for non-academic youth. However, the apprenticeship system involve early selection and the diversion of young people from higher education. Consequently, the apprenticeship system appears as a ‘dead end’, and tend to increase social inequality in the access to higher education due to the diversion effect of early tracking. However, the low rate of progression from VET to higher education is partly a result of the advantages of the apprenticeship system: the

direct and fast transition to skilled employment, good opportunities for work-based careers and relatively good earnings. Consequently, the problem examined in this article involves a trade-off between social *equality* and social *inclusion*. Offering direct access to employment for all is hard to combine with offering all students eligibility for higher education. Making the system more academic, would most likely reduce the inclusiveness of the system for students not opting for higher education.

Literature

- AE (2015). *Store virksomheder tager ikke nok ansvar for fremtidens faglærte*, Copenhagen: Arbejderbevægelsens Erhvervsråd.
- Antikainen, A. (2010). The Capitalist State and Education The Case of Restructuring the Nordic Model. *Current Sociology*, 58(4), 530-550.
- Arnesen, A.L. & Lundahl, I. (2006). Still social and democratic? Inclusive education policies in the Nordic welfare states, *Scandinavian Journal of Educational Research*. 50(3), 285-300.
- Blossing, U., Imsen, G., & Moos, L. (2014). *The Nordic Education Model*, Springer, Netherlands.
- Busemeyer, M. and C. Trampusch (Eds.), (2012) *The Political Economy of Collective Skill Formation*, Oxford University Press.
- Causa, O., & Johansson, Å. (2011). Intergenerational social mobility in OECD countries, *OECD Journal: Economic Studies*, Volume 2010.
- Christensen, E. (1985) *Konflikter mellem faglærte og ufaglærte arbejdere*, Aalborg, Aalborg Universitetsforlag.
- Dobbins, M., and Busemeyer, M. R. (2014) ‘Socio-economic institutions, organized interests and partisan politics: the development of vocational education in Denmark and Sweden’. *Socio-Economic Review*, (2014) 1-32.
- Esping-Anderson, G. (1990). *The Three Worlds of Welfare Capitalism*. Cambridge: Polity Press.
- EVA (2014). *Evaluering af praktikcentre*. Evalueringsinstituttet, København www.eva.dk
- Frederiksen, J T & H.H. Jensen, & C.H. Jørgensen. 2012. *Muligheder og barrierer på erhvervsuddannede unges vej til videregående uddannelse* [Opportunities and Barriers for Journeymen’s Pathway to Higher Education]. Roskilde: Roskilde Universitet.
- Goetze, W., Gonon, P., Gresele, A., Kübler, S., Landolt, H., Landwehr, N., & Egger, P. (2002). *Der dritte Lernort. Bildung für die Praxis, Praxis für die Bildung*. Bern: hep-Verlag
- Hall, C (2012), “The Effects of Reducing Tracking in Upper Secondary School: Evidence from a Large-Scale Pilot Scheme”, *Journal of Human Resources*, Vol. 47(1): 237–269.
- Imdorf, C., & Leemann, R. J. (2012). New models of apprenticeship and equal employment opportunity. Do training networks enhance fair hiring practices? *Journal of vocational education & training*, 64(1), 57-74.
- Imsen, G., U. Blossing, and L.Moos. (2016) Reshaping the Nordic education model in an era of efficiency. Changes in the comprehensive school project in Denmark, Norway, and Sweden since the millennium. *Scandinavian Journal of Educational Research* 0:0, pages 1-16.

- Jensen, T. P. and Larsen, B.Ø. (2011) *Unge i erhvervsuddannelserne og på arbejdsmarkedet, Værdier, interesser og holdninger*, Copenhagen, AKF.
- Juul, I and Jørgensen, C.H. (2011) 'Challenges for the dual system and occupational self-governance in Denmark'. *Journal of Vocational Education & Training*, Vol. 63, no. 3, pp.289-303.
- Jørgensen, C. H. (2013) 'Linking the dual system with higher education in Denmark'. Deissinger, J., Aff, A. Fuller, and C. H. Jørgensen (Eds) *Hybrid Qualifications*, Bern, Peter Lang, pp. 53 - 78.
- Jørgensen, C. H. 2015. "Challenges for Work-Based Learning in Vocational Education and Training in the Nordic Countries". In *Working and Learning in Times of Uncertainty: Challenges to Adult, Professional and Vocational Education*, edited by S. Bohlinger, U. Haake, C.H. Jørgensen, H. Toiviainen, and A. Wallo, 159-171. Rotterdam: Sense Publishers.
- Jørgensen, C. H. (2016). Shifting problems and shifting policies to reduce students' drop-out: – the case of vocational education policy in Denmark. In S. Bohlinger , K. A. Dang , & G. Klatt (red.), *Education Policy: Mapping the landscape and scope*. (p. 325 - 353). Bern: Peter Lang.
- Jørgensen, C. H., Michelsen, S., Olofsson, J., & Thunqvist , D. P. (2016). Same, but Different: The Emergence of VET in Three Nordic Countries. I E. Berner, & P. Gonon (red.), *History of Vocational Education and Training in Europe: Cases, Concepts and Challenges* (p. 305-326). Bern, 2016.: Peter Lang.
- Jørgensen, C. H. (2017). From apprenticeship to higher vocational education in Denmark: - building bridges while the gap is widening . *Journal of Vocational Education and Training*, 69(1), 64-80.
- Jørgensen, H., and Schulze, M. (2011) 'Leaving the Nordic path? The changing role of Danish trade unions in the welfare reform process'. *Social policy & administration*, 45(2), 206-219.
- Kananen, J. (2014). *The Nordic Welfare State in Three Eras: From Emancipation to Discipline*. Routledge.
- Kristensen, P. H. (1996) 'On the constitution of economic actors in Denmark'. Whitley R. and Kristensen P.H. (eds) *The Changing European Firm: Limits to Covergence*, The London, Routledge, pp. 118-58.
- Michelsen, S. & Stenström, M-L., (2017) (in preparation). *Vocational education in the Nordic countries: the historical evolution*. Routledge. Research in International and Comparative Education series.
- Müller, W. (2005). Education and youth integration into European labour markets. *International Journal of Comparative Sociology*, 46(5-6), 461-485.
- Murray, Åsa and Sundin, S. (2008) Student flows and employment opportunities before and after implementation of a third year in vocational programmes at upper secondary school, *European journal of vocational training*, Vol. 44, no. 2, p. 110-130

- Nikolai, R., & Ebner, C. (2012). The link between vocational training and higher education in Switzerland, Austria, and Germany. Bussemeyer, M. and C. Trampusch (Eds.), *The political economy of collective skill formation*, 234-258.
- Olsen, O. J., Høst, H., & Tønder, A. H. (2014). Key challenges for Norwegian VET: The state of play: Nord-VET. www.Nord-VET.dk
- Pettersson, L. (2006) *Är Danmark bättre än Sverige? Om dansk och svensk yrkesutbildning sedan industrialisering*, Malmö, Øresundsinstitutet.
- Preston, J. & A. Green 2007: The role of vocational education and training in enhancing social inclusion and cohesion, in CEDEFOP (ed.) *Modernising vocational education and training*, Fourth report on VET research in Europe: background report, Vol.1.
- Rudolphi, F., & Eriksson, R. (2016). Social selection in formal and informal tracking in Sweden. . Blossfeld, H. P., Buchholz, S., Skopek, J., & Triventi, M. (Eds). *Models of Secondary Education and Social Inequality: An International Comparison*, 165-179. Cheltenham: Edward Elgar.
- Socialdemokratiet (1973) *Socialdemokraterne former Fremtiden*, Working Programme adopted at the congress in September 1973.
- Schmid, E., & Gonon, P. (2011). Übergang in eine Tertiärausbildung nach einer Berufsausbildung in der Schweiz. *bwp@ Spezial*, 1-17.
- Thelen, K. (2014) *Varieties of liberalization and the new politics of social solidarity*. New York, Cambridge University Press.
- Undervisningsministeriet (2014). Aftale om Bedre og mere attraktive erhvervsuddannelser, 24. februar 2014. Copenhagen, Ministry of Education. www.uvm.dk
- Van de Werfhorst, H. G. (2014). Changing societies and four tasks of schooling: Challenges for strongly differentiated educational systems. *International Review of Education*, 60(1), 123-144.
- Wiborg, S. (2009) *Education and social integration: comprehensive schooling in Europe*. New York, Palgrave Macmillan.
- Wolbers, M. H. (2007). Patterns of labour market entry A comparative perspective on school-to-work transitions in 11 European Countries. *Acta Sociologica*, 50(3), 189-210.